

## ABSTRACT OF THE DISCLOSURE

In assessing the capability of an IP based network to support toll telephony service, objective measurements of Speech Quality are taken. A module is used with Voice over Packet equipment that allows performance of voice quality measurements in real-time without using any external test equipment. A reference signal that includes a marker and a voice test signal is sent through the network from one Voice over Packet equipment containing or connected to the module to another. The received marker is compared to the reference marker to identify the onset time of the received voice test signal. The received and reference voice test signals are processed to measure the quality of the network. This may be implemented using the processing power and memory resources present in Voice over Packet equipment giving the network administrator an enhanced test capability at each node of the network. Voice quality measurements may be generated in a transparent way for the callers in real-time under severely degraded conditions of the network.